

**In the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1           1.       (Currently Amended) A flexible circuit comprising:  
2                   a flexible planar substrate having a topside, ~~and a plane~~;  
3                   a flexible and extensible structure formed within and originating as part of said  
4 flexible planar substrate ~~[[and]]~~, said structure being co-planar with said substrate, said structure  
5 having a structure topside;  
6                   an insulated capillary formed on said structure for transferring a fluid; and  
7                   wherein said structure is extendable out of said plane by a distance greater than a  
8 maximum lateral dimension of said structure, such that said structure topside continues to face in a  
9 general topside direction.

1           2-3.     (Cancelled)

1           4.       (Withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an  
2 electrical lead for transferring an electronic signal.

1           5.       (Withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an  
2 electrical lead for transferring an electrical signal.

1           6.       (Withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an  
2 optical fiber for transferring an optical signal.

1           7.       (Withdrawn) The flexible circuit according to Claim 6, wherein bending radii of said  
2 optical fiber are large enough to prevent substantial optical loss from said optical fiber.

**AMENDMENT AND RESPONSE**

SN: 09/981,840

Atty. Dkt. No. 10003813-1

AGIL-27,343

1 8. (Original) The flexible circuit according to Claim 1, wherein said structure is a spiral.

1 9. (Original) The flexible circuit according to Claim 8, wherein said spiral is an  
2 Archimedes spiral.

1 10. (Original) The flexible circuit according to Claim 8, wherein said spiral is a parabolic  
2 spiral.

1 11. (Original) The flexible circuit according to Claim 8, wherein said spiral is a polygonal  
2 spiral.

1 12. (Original) The flexible circuit according to Claim 11, wherein said spiral is one of a  
2 square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

1 13. (Original) The flexible circuit according to Claim 1, wherein said structure has  
2 geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl, loop, u-  
3 turn and zig-zag.

1 14. (Previously Presented) The flexible circuit according to Claim 1, wherein said  
2 structure is defined by dashed perforations.

1 15. (Original) The flexible circuit according to Claim 1, wherein said structure comprises  
2 a boss for receiving a force to extend said structure out of said plane.

1 16. (Previously Presented) The flexible circuit according to Claim 1 further comprising at  
2 least a first insulated pathway and a second insulated pathway.

**AMENDMENT AND RESPONSE**

SN: 09/981,840

Atty. Dkt. No. 10003813-1

AGIL-27,343

Page 3 of 11

1 17. (Currently Amended) A flexible circuit comprising:

2 a flexible substrate having a plane;

3 a flexible and extensible structure formed within and as part of said substrate and co-  
4 planar with said substrate, said flexible and extensible structure includes a topside and is extendable  
5 out of said plane by a distance greater than a maximum lateral dimension of said structure such that  
6 said topside remains facing in a general topside direction; and

7 an insulated capillary for transferring a fluid on said structure.

1 18. (Cancelled)

1 19. (Withdrawn) The flexible circuit according to Claim 17, wherein said pathway is an  
2 electrical lead for transferring an electronic signal.

1 20. (Withdrawn) The flexible circuit according to Claim 17, wherein said insulated  
2 pathway is an optical fiber for transferring an optical signal.

1 21. (Withdrawn) The flexible circuit according to Claim 20, wherein bending radii of said  
2 optical fiber are large enough to prevent substantial optical loss from said optical fiber.

1 22. (Original) The flexible circuit according to Claim 17, wherein said structure is a  
2 spiral.

1 23. (Previously Presented) The flexible circuit according to Claim 22, wherein said spiral  
2 is an Archimedes spiral.

AMENDMENT AND RESPONSE  
SN: 09/981,840  
Atty. Dkt. No. 10003813-1  
AGIL-27,343

Page 4 of 11

1 24. (Original) The flexible circuit according to Claim 22, wherein said spiral is a  
2 parabolic spiral.

1 25. (Original) The flexible circuit according to Claim 22, wherein said spiral is a  
2 polygonal spiral.

1 26. (Original) The flexible circuit according to Claim 25, wherein said spiral is one of a  
2 square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

1 27. (Original) The flexible circuit according to Claim 17, wherein said structure has  
2 geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl, loop, u-  
3 turn and zig-zag.

1 28. (Previously Presented) The flexible circuit according to Claim 17, wherein said  
2 structure is defined by dashed perforations.

1 29. (Previously Presented) The flexible circuit according to Claim 17, wherein said  
2 structure comprises a boss for receiving a force to extend said structure out of said plane.

1 30. (Previously Presented) The flexible circuit according to Claim 17 further comprising  
2 a second insulated pathway on said structure.

1 31-36. (Cancelled)

1 37. (Currently Presented) A flexible circuit comprising:

2 a flexible planar substrate having a plane;

**AMENDMENT AND RESPONSE**

SN: 09/981,840

Att. Dkt. No. 10003813-1

AGIL-27,343

3 a flexible and extensible structure formed within and as part of said substrate and co-  
4 planar with said substrate, said structure having a top side;

5 a capillary for transferring fluid on said structure; and

6 wherein said structure is extendable substantially perpendicular to said plane within  
7 the region defined by said plane, such that said top side remains facing in a general topside direction.

1 38. (Previously Presented) The flexible circuit according to Claim 37 further comprising  
2 an insulated pathway formed on said structure.

1 39. (Previously Presented) The flexible circuit according to Claim 37, wherein said  
2 structure is a spiral.

AMENDMENT AND RESPONSE

SN: 09/981,840

Atty. Dkt. No. 10003813-1

AGIL-27,343

Page 6 of 11